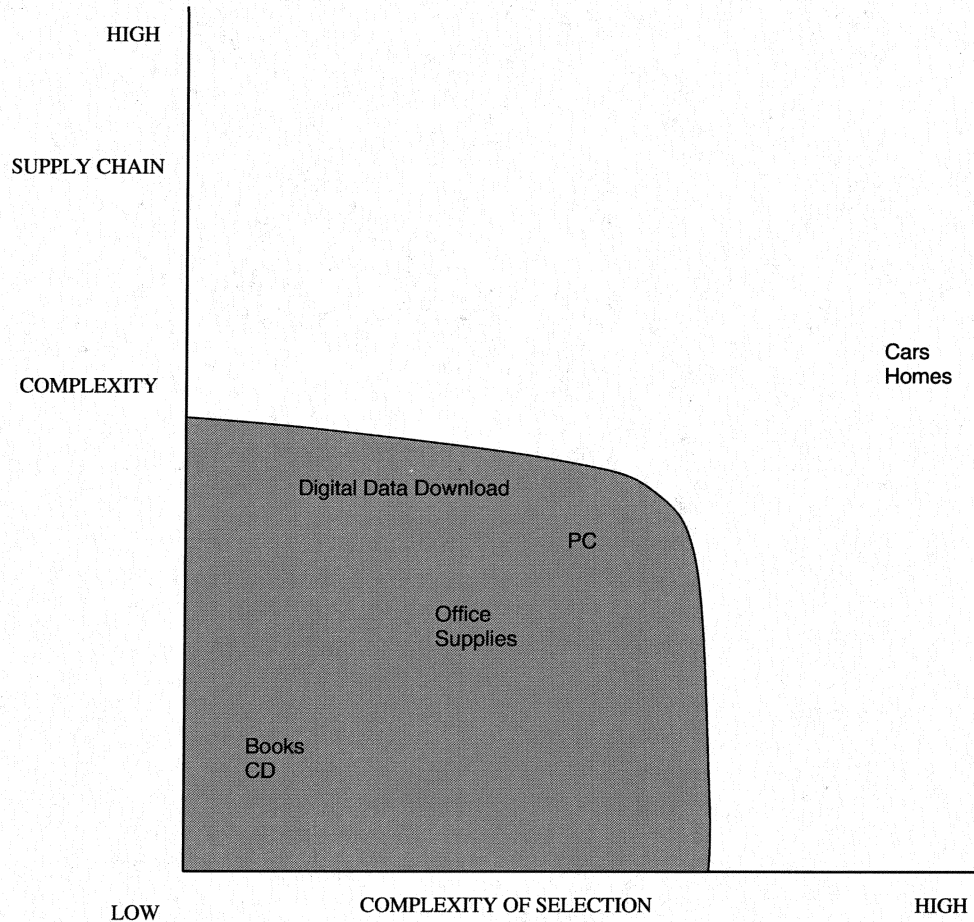


FIGURE 1
Characteristics of Goods Likely to Be Sold via E-Commerce



Survey work by Arthur Andersen found that Internet shoppers are put off by procedures that require more than a few steps or “clicks” to complete a sale. Unless a system to collect the sales tax over the Internet is carefully designed, the procedures to calculate the use tax could become a deterrent to sales.

Of course, other factors beside price play a role in the purchase decision. For example, vendor policies for delivery and returns, concerns for transaction safety, desire for personalized service, attitude toward technology use, attitude toward in-store shopping, desire for immediate possession, and search and other transaction costs will all influence consumer behavior.

For many firms, sales volume and market share are as important as short-term profitability. Even in markets with low or negative margins, firms will often fight for

market share, arguing that when times improve they will be better off if they enjoy greater market dominance. For such firms, the prospect of a price increase as a result of collecting a sales tax could translate into lower sales and lower market share.

Although lower price is not the only reason consumers are drawn to the Internet, it is fair to say that it is very important. A firm that experiences a reduction in revenue, sales volume, and market share as a result of collecting use taxes is unlikely to voluntarily collect use tax.

Impact on perceived future risks. We turn next to the question of how voluntary compliance will affect perceived business risks. Any change in the business environment represents a potential change in relative risks for a firm. In this instance, there are at least four elements of business risk that could be affected by the creation of a simplified sales and use tax system. Some risk elements will change simply because the new system exists, while other risks will change depending on whether the firm chooses to participate.

As noted, at present, firms that have not established nexus are not required to collect the tax. Given widespread concerns about the loss of tax base, if states are successful in their simplification efforts, either Congress or the courts may act to require all vendors to collect the tax. If a firm, or group of firms, believes that noncooperation will result in undesirable outcomes, the inclination to comply should increase. There are two possible undesirable outcomes. One of the least desirable outcomes could be court action that runs counter to *Quill* and related decisions, and that limits the protection offered by affiliate associations. If this were to happen, vendors would be expected to collect the use tax, but there would be fewer reasons for states to simplify or retain adopted simplifications of their administrative mechanisms, base definitions, and rate issues, or to offer vendor discounts. Vendor firms could be compelled to comply without meaningful simplification. There are already examples of this practice. Grant⁴² reports that the current proposal from the European Union on e-commerce has raised concerns for American vendors. Under the EU proposal, European vendors would collect the tax at the firm level, but U.S. companies doing business in Europe would collect the use tax based on delivery or destination. EU firms would have an easier time collecting the tax, and American firms would be placed at a distinct disadvantage. This is an example of a decision made without full consideration of the administrative or compliance difficulties.

The second concern is federal legislative action. Past attempts by Congress to resolve issues around the commerce clause and the use tax have been discussed before a Congress that did not believe the lost use tax revenue was substantial and during a period of economic expansion when state and local coffers were growing. The revenue situation now has changed and policy analysts are estimating significant revenue losses at the state and local levels. What may have been easy to dismiss in the past may now be difficult to ignore. Traditional vendors have also become more politically engaged in the current debate because they fear they are losing sales to nontraditional vendors. As *Vertex*⁴³ reports, Forrester Research now argues that if the problem of the use tax is not resolved, Congress

42. Elaine X. Grant, "Battle Brewing over European E-Tail Plan," *E-Commerce Times*; available from: <http://www.ecommercetimes.com>, 15 February 2002; last accessed 3 December 2003.

43. *Vertex*, Tax Rate Analysis—2000; available from: <http://www.vertexinc.com/taxcybrary>, 2000; last accessed 3 December 2003.

will act because of the erosion of the sales tax base. Litan and Rivlin⁴⁴ and Mikesell⁴⁵ suggest that if a solution is not found, not only will Congress act, it may impose a federally determined base and rates. Few students of fiscal federalism, and fewer governors, state legislators, mayors, and corporate tax departments, would welcome such a move.^{46,47}

These risks should provide incentives for firms to participate in a voluntary use tax collection system. However, because protection from these risks is a public good, the dominant strategy for any firm is to not participate.

Nexus may be seen as desirable or undesirable, depending on the current status of the firm and other firm priorities. A concern for nontraditional vendors that might consider collecting the use tax on a voluntary basis is the potential that compliance could create nexus for other business taxes. If a vendor decided to collect the use tax, it would need to register with the state revenue department. At issue is whether such actions could be construed as establishing nexus for other business activity taxes such as a state corporate income or franchise tax. The specific issue is whether use tax compliance would void the current protection out-of-state firms now have under federal law (*P.L. 86-272*). The gist of *P.L. 86-272* is to provide protection from the state corporate income tax if the nexus a firm has in a state is limited to the solicitation of orders and shipments from outside the state.⁴⁸ This law is a key part of tax planning, and the potential loss of its protection under a voluntary process is a concern to a number of firms.^{49,50} Public officials have proposed designing a *firewall* that would protect firms from achieving nexus for other taxes if they gave up nexus protection for the use tax. However, companies involved in these discussions did not feel a firewall would be sufficient protection. The current SSTP proposal promises that collecting the use tax will not create nexus for other taxes. The threat of nexus extending to other taxes will clearly reduce any willingness to collect use taxes.

Potential change in audit exposure was discussed above. The importance of a reduction in audit exposure depends on the current probability of an audit, which is generally a function of the size and nature of the firm.

44. Robert E. Litan and Alice M. Rivlin, *Beyond the Dot.Coms: The Economic Promise of the Internet* (Washington, DC: The Brookings Institution, 2001).

45. John Mikesell, "Remote Vendors and American Sales and Use Taxation: The Balance between Fixing the Problem and Fixing the Tax," *National Tax Journal* 53, no. 4 (2001): 1273-1286.

46. Alan E. Wiseman, *The Internet Economy: Access Taxes and Market Structure* (Washington, DC: Brookings Institution Press, 2000).

47. States also face uncertainties. In 2000, proposals were made in the U.S. Senate and House of Representatives to prohibit the collection of sales and use taxes on all Internet sales. See Richard D. Nicholson, "Preemption of State Taxes on E-Commerce: An Unconstitutional Mission," *Tax Analysts Reference*, 27 March 2000.

48. Charles E. McLure, "Implementing State Corporate Income Taxes in the Digital Age," *National Tax Journal* 53, no. 4, part 3 (2000): 1287-1306.

49. Jones.

50. The practice of seeking ways to avoid paying direct business taxes has been highlighted by the Enron collapse. The *New York Times*, "The Bermuda Tax Triangle," 13 May 2002, reports that Enron created hundreds of off-shore affiliate entities in order to avoid tax obligations. The use of Bermuda as a shelter for direct business taxes is also growing.

Following Sitkin and Pablo,⁵¹ how the firm perceives these risks and how a given firm will respond will depend on a number of factors, including:

1. The risk preferences of the firm managers.
2. Current firm practices and firm inertia that predispose a firm to respond in a particular way.
3. Past outcome history compared to the firm's aspiration levels. Firms that have found their past strategies successful when dealing with risks similar to those inherent in a voluntary participation system will likely follow those same strategies again. Firms that feel their past strategies were less than successful will be more likely to consider a new course of action.
4. How the risks inherent in the decision are framed.
5. Top management homogeneity.
6. Social influences on the firm.
7. How familiar decision makers are with sales and use tax collection.
8. How a firm's organizational control systems (rewards and punishments) focus attention on different aspects of the participation question.

These eight factors will combine to directly influence the risk propensity of managers and the perceived risks of participation versus nonparticipation.⁵² We hypothesize, however, that there will be a range of responses, depending on the nature and size of the firm, the products they sell, and the number of market areas they trade in. Further, it appears that, based on other empirical work, successful firms will be less likely to take additional risks and will consequently require more enticing than less successful firms.⁵³ Larger firms on balance will be less likely to participate based on relatively higher perceived risks. Smaller firms will generally have less inertia and may see the same decision situation as inherently less risky than larger firms. If the issues are successfully framed as reducing uncertainty about potential future congressional or court action, reducing the risks from audit exposure, and resolving uncertainties around nexus issues, more firms will participate. If, on the other hand, the framing focuses on potential downside risks of lost market share and increased income tax obligations, fewer firms will agree to the new system.

51. Sim B. Sitkin and Amy L. Pablo, "Reconceptualizing the Determinants of Risk Behavior," *The Academy of Management Review* 17, no. 1 (1992): 9–38.

52. For a review of the empirical literature supporting the inclusion of each of these dimensions, see Sitkin and Pablo, and Sim B. Sitkin and Laurie R. Weingart, "Determinants of Risky Decision-Making Behavior: A Test of the Mediating Role of Risk Perception and Propensity," *The Academy of Management Journal* 38, no. 6 (1995): 1573–1592. James G. March and Zur Shapira, "Managerial Perspectives on Risk and Risk Taking," *Management Science* 33, no. 11 (1987): 1404–1418, provide an excellent examination of the role of attention and the importance of performance targets. For further empirical examinations of the impact of both historical and social aspiration levels on risky organizational change, see Henrich R. Greve, "Performance, Aspirations and Risky Organizational Change," *Administrative Science Quarterly* 43, no. 1 (1998): 58–86; and Avi Fiegenbaum and Howard Thomas, "Attitudes toward Risk and the Risk-Return Paradox: Prospect Theory Explanations," *The Academy of Management Journal* 31, no. 1 (1988): 85–106.

53. Greve.

WILL FIRMS VOLUNTARILY COMPLY?

In the previous section, we discussed the multiple factors that might affect a firm's decision of whether to voluntarily collect use taxes and how that decision might be affected by various provisions of the proposed sales and use tax simplification. That discussion suggested that a firm's decision of whether to participate in a voluntary collection system is more complex than suggested by a simple marginal analysis of a price change due to the addition of a use tax. In this section, we attempt to determine the likely effect that the various factors will have on participation in a voluntary system, assuming that firms will participate if the expected net benefits are positive. Whether a vendor's net benefit is positive has much to do with the nature of the vendor and its products and services in conjunction with the nature of the sales and use tax system.

It is helpful to examine the situation of particular types of firms under three alternative policy scenarios. The first is the status quo, denoted "status quo," that is, firms must have nexus before they are required to collect sales and use tax, and as a consequence do not collect the tax. The second scenario is a voluntary compliance system, denoted "voluntary system," in which states have successfully simplified their sales and use tax systems, and most firms employ contractors to collect and remit the tax on the firm's electronic transactions. The third scenario is a mandatory collection system, denoted "mandatory system," in which states have succeeded in sufficient simplification to induce either Congress or the Supreme Court to act and require all vendors to collect the tax.

For each of these three scenarios we consider four categories of nexus status:

- Nexus: the firm has already established nexus in a number of states.
- Possible: the firm's nexus status in a number of states is ambiguous.
- Desirable: for marketing reasons, the firm would like to establish nexus in a variety of states.
- None: the firm has nexus in only one state and has no desire to establish nexus elsewhere.

We consider three types of firms: a large firm with sales in many states, a small vendor with sales in a few states, and a vendor that rarely has out-of-state sales. Appendix Table A summarizes our hypothesized view of the relative importance of the various factors discussed in the previous section for each of the 12 nexus status policy scenarios for each of the three vendor sizes.

Space does not allow a discussion of each of the 36 combinations, but to illustrate we discuss two cases. We consider first the decision facing a large firm with sales in many states collecting sales tax on in-store transactions. We assume that such a firm is using a subsidiary for electronic sales and that the subsidiary is not currently collecting use tax. The factors associated with the net benefits under each scenario and their relative importance are summarized in Table 1, and represents the first three lines of Appendix

TABLE 1
Analysis for Large Firms with Nexus

Impact on Business Concern	Status Quo	Voluntary System	Mandatory System
Cost of Doing Business			
Audit costs	Very high	Low	Very high
Non-audit compliance costs	High	Low	Medium
Profitability of tax collection	0	High	0
Advantage with nexus	Low	Low	Low
Amnesty for back taxes due	Not important	Not important	Not important
Sales and Market Share			
Loss of sales or market share	0	Low	0
Future Risks			
Uncertainty about future policy actions	Low	0	0
Audit exposure	Very high	Low	Very high
Advantage with nexus	Low	Low	Low
Risk of lost market share	0	Low	0

Table A. Because no specific empirical evidence exists, we must rely on a subjective evaluation of the probable affects.

With regard to the cost of doing business, it can be seen that a voluntary system holds several attractions for the firms in this category. Compared to the status quo, a voluntary system would likely offer lower audit and compliance costs. It is possible, however, that some loss in market share may occur as a result of price increases due to taxes. Finally, some future risks will be reduced with a voluntary system, while uncertainty about future market share will likely increase. Questions of nexus and tax amnesty are probably not significant for firms in this category.

Under a mandatory collection system, the firm's non-audit compliance costs are likely to be somewhat lower because of state simplification efforts. Other than that, little will change from the status quo. In particular, while the firm will be collecting use tax on electronic transactions, it is not likely to affect their market share because all of their competitors will also be required to collect the tax. Thus, it appears that large multistate retail firms have incentives to participate in a voluntary collection system, especially if the states design a system that compensates vendors above their compliance costs.

The outlook is somewhat different for large firms that do not have nexus in multiple states and consequently are not currently collecting the sales tax in their traditional markets. Relatively large firms with national sales volume through electronic and mail order outlets but few if any traditional retail stores fall into this category. Table 2 summarizes the decision facing such firms, and represents the last three lines for large

TABLE 2
Analysis for Large Firms without Nexus

Impact on Business Concern	Status Quo	Voluntary System	Mandatory System
Cost of Doing Business			
Audit costs	Low	Low	Very high
Non-audit compliance costs	Very low	Low	Medium
Profitability of tax collection	0	High	0
Advantage with nexus	0	Low	Low
Amnesty for back taxes due	Not important	Not important	Not important
Sales and Market Share			
Loss of sales or market share	0	Medium	Low
Future Risks			
Uncertainty about future policy actions	Very low	0	0
Audit exposure	Low	Low	Very high
Advantage with nexus	0	Low	Low
Risk of lost market share	0	Medium	Low

firms in Appendix Table A. The cost of doing business for these firms will likely increase somewhat under a voluntary collection system. While their audit costs will remain low, their other compliance costs will likely increase as they install and maintain (or contract for) a tax collection system. Offsetting this increase in costs will be the vendor discounts provided by states, if any. While there may be some modest advantage to the firm in establishing nexus through voluntary compliance, amnesty programs are unlikely to be important for firms in this category.

We assume in this example that price is a major selling point for large firms that have limited nexus. Consequently, price increases due to taxes will likely have important consequences for sales and market share under a voluntary system. The extent to which the compensation provided by states offsets both increased compliance costs and lost profits resulting from lower sales will obviously be a factor in determining whether these firms agree to participate. Potential lost market share will likely also loom large as the firm considers future risks.

Compared to a mandatory collection system, however, firms in this category will find the voluntary system to be much more appealing. Under a mandatory system,

- Costs will be higher without offsetting discounts;
- Lost sales due to increased prices will occur, but the impact will be smaller than under a voluntary system; and
- Risks associated with increased audit exposure and potential lost market share will increase.

On balance, it appears that large firms without nexus would prefer a voluntary system to a mandatory collection system, but participation in a voluntary system will hinge on the compensation level set by states.

It is possible to extend the analysis further in order to suggest the policy scenario that would be preferred by each of the 12 firm type-nexus status combinations. Initially, this is done through the simple expedient of converting the descriptions in Appendix Table A to a numeric scale and, assuming all dimensions to be of equal importance to a firm, adding the values.⁵⁴ The result of this exercise is shown in Table 3. In Table 3 it can be seen that, regardless of vendor size, firms with nexus are likely to favor a voluntary collection system over the status quo or a mandatory system. This is certainly not surprising. These firms are already collecting the sales tax, and the prospect of lower compliance costs and higher potential levels of compensation for their efforts is likely to be very attractive. At the other extreme, firms without clearly established nexus, again regardless of size, are likely to favor the status quo, though this view may be mitigated depending on the level of compensation offered by the states.

Further, we hypothesize that those firms desiring to establish nexus will find the voluntary system sufficiently attractive that they will participate. Firms with ambiguous nexus status under the status quo scenario will be more mixed in their reactions.

Of course, Table 3 makes the very strong assumption that all firms place equal importance on all of the decision dimensions discussed here. Clearly, this is very unlikely. In addition, by adding all dimensions together, we ignore the possibility that many firms may see changes in their cost of business quite differently from changes in future risks or impacts on their market share. To relax both assumptions, we performed a simple simulation of the responses of firms using the 12 firm size-nexus status combinations and the values as listed in note 54 of the hypothesized views on factors listed in Appendix Table A.

To simulate the cost implications of voluntary compliance we considered the following factors:

S_0 = current sales volume without the sales tax

S_L = sales volume lost as a result of sales tax (assuming a price-elastic demand for the good)

54. The scale employed ranges from 0 to 1 as follows:

Zero or none = 0

Very low = 0.1

Low or somewhat important = 0.3

Medium or moderate = 0.5

High or important = 0.75

Very high or very important = 1.0

To assure that for each dimension larger values correspond to more favorable ratings, this scale was reversed for audit costs, non-audit compliance costs, loss of sales or market share, audit exposure, and risk of lost market share.

TABLE 3
Hypothesized Response Preferences of Firms Placing Equal Importance on All Dimensions

Nexus Status	Firm Size		
	Large, Sales in Many States	Small, Sales in Very Few States	Casual, Rarely Out-of-State Sales
Nexus	Voluntary collection system	Voluntary collection system	Voluntary collection system
Possible Nexus	Too close to call	Voluntary collection system	Status quo
Nexus Desirable	Voluntary collection system	Voluntary collection system	Voluntary collection system
None	Status quo	Status quo	Status quo

π = firm profit rate on sales

ρ = proportion of sales tax collected retained by the firm

c = cost of compliance, expressed as a proportion of the tax collected

t = sales tax rate (average)

For the firm to find the collection of the sales tax financially attractive, profit under the voluntary system must be at least as large as under the status quo. That is, the profits generated currently from sales must be less than or equal to the profits generated from sales with a tax in place plus the net revenue realized from the tax collection operation. Algebraically, this is given by:

$$\pi S_0 \leq (\rho - c)t(S_0 - S_L) + \pi(S_0 - S_L) \quad (1)$$

The left-hand side of Equation 1 is the current profit level, while the two terms on the right-hand side represent the revenue from collecting the tax and the profits from the new sales level, respectively. Rewriting and simplifying this expression we have the following relationship, which is used in the simulation:

$$0 \leq 1 - \frac{S_L}{S_0} \left(1 + \frac{\pi}{(\rho - c)t} \right) \quad (2)$$

If for a given firm the relationship shown in Equation 2 holds true, then collecting the tax will not prove a financial burden. Under such a condition, we assume the firm will voluntarily collect the use tax.

To pursue the simulation, we generated 50,000 synthetic firms, randomly selecting values for each of the parameters in Equation 2 from a uniform distribution. The range for lost sales was capped at 20 percent. Current profit margins were assumed to be between 0 percent and 10 percent. The proportion of collected tax retained by the firms

TABLE 4
Descriptive Statistics for Random Simulation of Profitability

	Mean	Std. Dev.	Minimum	Maximum
S_L/S_0	0.09997	0.05816	0	0.2
π	0.05004	0.02882	0	0.1
ρ	0.04987	0.02892	0	0.1
c	0.02166	0.00961	0.005	0.03833
T	0.04332	0.01932	0.01	0.07666

was capped at 10 percent. The tax rate was determined using the expression $t = 0.01 + R(0)/15$, where $R(0)$ is a uniformly distributed random variable. Similarly, the cost of collecting the tax was determined using the equation $c = 0.005 + R(0)/30$. Descriptive statistics for the resulting variable values are shown in Table 4.

Using the values generated for each of the 50,000 firms, we calculated the value of the expression on the right-hand side of Equation 2 and found that in 42 percent of the cases, the value was greater than or equal to zero. Our argument is not that 42 percent of firms will profit from collecting the sales tax, because it is not possible to predict from this simple exercise what proportion of firms will find collecting the tax profitable. What the effort does demonstrate is that for at least a large minority of firms, the total cost of collecting the tax voluntarily could be offset under the right conditions, and a number of those conditions are under the control of public policy.

In such an analysis, cost and risk emerge as the central dimensions because all firms will prefer the status quo on the sales/market share dimension. This is true under our hypotheses because no firm stands to gain sales or market share under either a voluntary or mandatory system. Thus, no firm is likely to prefer their market share or sales level under a new system to their position under the status quo. Consequently, we focus on the other factors that may be more directly under the control of policy makers as they design an alternative collection system: cost and risk. Our argument is that if a firm sees advantages to a voluntary collection system in terms of reduced compliance costs, increased payment for collecting use tax, and reduced future risk, then there is opportunity to design a system with advantages that will offset any potential disadvantages in terms of lost market share. Overall, the simulation suggests that roughly 90 percent of firms will find a voluntary collection system attractive on the cost dimension, while about 40 percent will perceive advantages in terms of risk.

More detailed results of our simulation are shown in Table 5. In constructing Table 5, we make three different assumptions about the size and nexus status of companies. In Table 5A, we assume an equal distribution across all combinations, and simulate the response of 60,000 firms (5,000 in each cell of the table). In Table 5B, we use the 1997 Census of Retail Trade to establish the size distribution of retail firms. The 1997 Census

TABLE 5A
Percent of Firms Likely to Prefer Voluntary Collection on Both Cost and Risk
Dimensions, Assuming Random, Uniform Aggregation Weights

Nexus Status	Firm Size			Total
	Large, Sales in Many States	Small, Sales in Very Few States	Casual, Rarely Out-of-State Sales	
Nexus	80%	45%	9%	45%
Possible	14%	35%	7%	19%
Desirable	74%	73%	66%	71%
None	19%	5%	0%	8%
Total	46%	40%	21%	36%

TABLE 5B
Percent of Firms Likely to Prefer Voluntary Collection on Both Cost and Risk
Dimensions, Assuming Random, Uniform Aggregation Weights and Actual 1997
Distribution of Firm Sizes

Nexus Status	Firm Size			Total
	Large, Sales in Many States	Small, Sales in Very Few States	Casual, Rarely Out-of-State Sales	
Nexus	79%	45%	10%	67%
Possible	14%	35%	8%	26%
Desirable	74%	74%	66%	74%
None	21%	5%	0%	5%
Total	60%	40%	3%	39%

TABLE 5C
Percent of Firms Likely to Prefer Voluntary Collection on Both Cost and Risk
Dimensions, Assuming Random, Uniform Aggregation Weights and Actual 1997
Distribution of Firm Sizes Adjusted for Estimated E-Commerce Transactions

Nexus Status	Firm Size			Total
	Large, Sales in Many States	Small, Sales in Very Few States	Casual, Rarely Out-of-State Sales	
Nexus	79%	46%	11%	67%
Possible	13%	34%	6%	25%
Desirable	74%	75%	64%	75%
None	20%	6%	0%	6%
Total	59%	40%	3%	41%

reports 12 size categories, which we collapse into three.⁵⁵ In Table 5C, we supplement the 1997 Census data with data from the Census Bureau's estimates of e-commerce⁵⁶ and our assumption that larger firms are more likely to dominate e-commerce. In both Tables 5B and 5C, we assume that the nexus status of the firm is in part related to the size of the firm. Large firms are more likely to have nexus in multiple jurisdictions, while small firms are less likely to be concerned with nexus issues. While the exact assumptions may seem strong, they do not appear to have a significant impact on the simulation results.⁵⁷

In interpreting Table 5A, recall that each cell (except for the totals column and row) represents 5,000 simulated firms, each holding the views described in Appendix Table A. But the relative importance of each dimension is randomly determined for each firm.⁵⁸ Thus, we read Table 5A to suggest that for large multistate firms that have already established nexus in multiple states, a large percentage (80 percent) will find a voluntary collection system preferable to the status quo both in terms of reduced operating costs and reduced future risks. Note that this is a fairly conservative presentation, because 90 percent of all firms will see some incentive to support voluntary collection because of reduced costs.

Tables 5B and 5C utilize a somewhat more realistic distribution of firm sizes, but tell essentially the same story. Large firms are quite likely to see distinct advantages in voluntary compliance. And overall, it appears that 35 to 40 percent of firms will view voluntary compliance positively.

We note again that we have not demonstrated that any given industry group will support a voluntary collection system. Our presentation is based on theory and simple simulations. Our result is really in the form of testable hypotheses about how firms will respond. What we hope is clear at this point is that

- There is much more to a firm's decision about participation in a voluntary system than simply fears about lost market share;

55. Our Casual category consists of firms with annual sales of less than \$250,000. We term Small, firms with sales between \$250,000 and \$1 million. Large firms are those with sales in excess of \$1 million.

56. U.S. Census Bureau, *2001 E-Commerce Multi-Sector Report*; available from: <http://www.census.gov/eos/www/ebusiness614.htm>, 19 March 2003; last accessed 3 December 2003.

57. We assume that the distribution of large firms across the four nexus status categories of nexus (N), possible nexus (P), nexus is desirable (D), and no nexus (NN) is 60 percent, 15 percent, 10 percent, and 15 percent, respectively. For small firms, we assume an equal distribution with 25 percent of firms in each category. Casual e-commerce sales firms are assumed to have a distribution of 3 percent (N), 7 percent (P), 3 percent (D), and 87 percent (NN).

58. To be clear on our procedure, we used the numeric scales listed in an earlier note and the following equations to simulate a firm's response to the participation decision:

$$\text{Cost} = (1 - \text{audit_costs}) * i_1 + (1 - \text{non_audit_costs}) * i_2 + \text{profit} * i_3 + \text{ad_nexus} * i_4 + \text{amnesty} * i_5$$

$$\bullet \text{ Share} = (1 - \text{lost_sales})$$

$$\bullet \text{ Risk} = (1 - \text{audit_exposure}) * i_7 + \text{uncertainty} * i_8 + \text{ad_nexus} * i_9 + \text{amnesty} * i_{10} +$$

$$(1 - \text{risk_market}) * i_{11},$$

where i_1 through i_{11} are randomly selected from a uniform unit interval for each firm.

- There are plausible reasons to believe that a successful voluntary system could be designed and implemented; and
- The key design factors on which states should focus their attention are compliance costs, compensation levels, and ensuring a predictable business environment.

SUMMARY AND CONCLUSIONS

In this analysis, we have attempted to provide an assessment of the prospects for the success of the SSTP sales and use tax simplification effort. It appears that the challenges ahead for state simplification are substantial, and it is hard to be optimistic about their prospects for success.

Even with partial success, voluntary compliance may be hard to come by because widespread compliance would represent a major shift for firms. Such a shift will require the provision of incentives to induce firms to act. Though our hypotheses remain to be tested in the field, there is some reason to believe that it is possible to design a voluntary system in which many firms would participate.⁵⁹ Success will hinge on the willingness of states to lower compliance costs, increase compensation levels for collecting use taxes, and at the same time reduce uncertainty and future risks for firms. While this article raises a number of important questions for future research, the most important question now facing the states is whether they are willing to cooperate in the design of an attractive voluntary system.

59. The recent agreement reached by several firms and states under which the firms will begin to voluntarily collect sales tax is some evidence that, under the right conditions, at least some firms will participate in a voluntary compliance program.

APPENDIX TABLE A
Hypothesized Business Assessment of Compliance Dimensions by Size of Firm and Nexus Status

Size of Vendor	Cost of Doing Business							Sales and Market Share		Future Risks		
	Nexus Status	Policy Scenario	Audit Costs	Non-audit Compliance Costs	Profitability of the Activity	Advantage with Nexus	Amnesty for Back Taxes	Loss of Sales or Market Share	Uncertainty about Future Policy Actions	Audit Exposure	Advantage with Nexus	Risk of Lost Market Share
Large, Sales in Many States	Nexus	Mandatory collection	very high	medium	0	low	not important	0	0	very high	low	low
		Status quo	very high	high	0	low	not important	0	low	very high	low	low
	Possible	Voluntary collection	low	low	high	low	not important	low	0	low	low	low
		Mandatory collection	very high	medium	0	low	somewhat important	low	0	very high	low	low
Desirable	Nexus	Status quo	high	low	0	medium	not important	0	high	high	medium	0
		Voluntary collection	low	low	high	low	somewhat important	medium	0	low	low	medium
	None	Mandatory collection	very high	medium	0	low	not important	low	0	very high	low	low
		Status quo	high	medium	0	high	not important	0	low	high	high	low
None	Nexus	Voluntary collection	low	low	high	high	important	medium	0	low	high	medium
		Mandatory collection	very high	medium	0	low	somewhat important	medium	0	very high	low	medium
	None	Status quo	low	very low	0	0	not important	low	very low	high	0	0
		Voluntary collection	low	low	high	low	not important	medium	0	low	low	medium

APPENDIX TABLE A (Continued)

Size of Vendor	Cost of Doing Business										Sales and Market Share		Future Risks		
	Nexus Status	Policy Scenario	Audit Costs	Non-audit Compliance Costs	Profitability of the Activity	Advantage with Nexus	Amnesty for Back Taxes	Loss of Sales or Market Share	Uncertainty		Audit Exposure	Advantage with Nexus	Risk of Lost Market Share		
									Future Policy Actions	Future about					
Small, Sales in Very Few States	Nexus	Mandatory collection	low	medium	0	low	not important	0	0	0	low	low	0		
		Status quo	high	high	0	low	not important	0	low	low	high	low	0		
		Voluntary collection	0	low	medium	low	not important	low	0	0	0	low	low		
	Possible	Mandatory collection	medium	medium	0	low	important	0	0	0	medium	low	0		
Desirable		Status quo	medium	low	0	low	not important	0	high	high	medium	low	0		
		Voluntary collection	0	low	medium	low	important	medium	0	0	0	low	medium		
		Mandatory collection	medium	medium	0	low	not important	0	0	0	medium	low	0		
		Status quo	medium	high	0	high	not important	0	low	low	medium	high	low		
None		Voluntary collection	0	low	medium	high	important somewhat important	medium	0	0	0	high	medium		
		Mandatory collection	low	medium	0	low	not important	0	0	0	low	low	0		
		Status quo	very low	0	0	0	not important	0	very low	low	very low	0	0		
		Voluntary collection	0	low	medium	very low	not important	medium	0	0	0	very low	medium		
Casual, Rarely	Nexus	Mandatory collection	very low	high	0	0	not important	0	0	0	very low	low	low		

Out-of-State Sales	Status quo	medium	medium	0	0	not important	0	low	medium	0	0
Possible	Voluntary collection	0	medium	low	0	not important	very low	0	0	0	low
	Mandatory collection	low	high	0	0	somewhat important	very low	0	low	0	low
	Status quo	very low	very low	0	very low	not important	0	moderate	very low	very low	0
	Voluntary collection	0	medium	low	0	somewhat important	very low	0	0	0	low
Desirable	Mandatory collection	low	high	0	0	not important	very low	0	low	0	low
	Status quo	medium	low	0	high	not important	0	low	medium	high	0
	Voluntary collection	0	medium	low	high	somewhat important	very low	0	0	high	low
	Mandatory collection	low	high	0	0	not important	very low	0	low	0	low
None	Status quo	0	0	0	0	important	0	very low	0	0	0
	Voluntary collection	0	medium	low	high	somewhat important	very low	0	0	high	low
	Mandatory collection	low	high	0	0	not important	very low	0	low	0	low
	Status quo	0	0	0	0	not important	0	very low	0	0	0
	Voluntary collection	0	medium	low	0	not important	low	0	0	0	low
						important					